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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|---------------------------|---------------------|------------------|
| 09/882,018 | 06/18/2001 | Claire-Sabine Randriamasy | Q64966 | 8810 |

7590 07/08/2004

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EXAMINER

DANIEL JR, WILLIE J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2686

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/882,018

Applicant(s)

RANDRIAMASY, CLAIRE-SABINE

Examiner

Willie J. Daniel, Jr.

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: **Fig. 3** has “**HOS₁₅**” in which the specification has “**HOS₅**” on pg. 6, line 11. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Regarding **Fig. 3** submitted 16 April 2004 and 18 June 2001, applicant uses “**HOS₁₅**” instead “**HOS₅**” that is used in the specification on pg. 6, line 11.

2. The objection to Fig. 2 is withdrawn, as the proposed Fig. 2 correction is approved.

Claim Objections

3. Claim 5 is objected to because of the following informalities:
 - a. Applicant uses variable “t” on line 2 as part of the equation. Examiner interprets as “t_i” which relates to the traffic value.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by **Vasudevan et al.**

(hereinafter Vasudevan) (US 6,539,221).

Regarding **Claim 1**, Vasudevan discloses a method of constructing a representation (Figs. 1, 5, and 17) of the geographical distribution of traffic for a cellular radio network (see abstract; col. 1, line 64 - col. 2, line 5; col. 2, lines 14-42), the method comprising the steps of:

dividing each cell of said cellular network into a set of sectors which reads on the claimed “areas” using information on handovers obtained from said cellular network (see col. 1, line 64 - col. 2, line 5; col. 5, lines 1-12; Figs. 5, 6, 7, 8, and 20), where the cell is divided into areas for handover of traffic;

determining a traffic threshold which reads on the claimed “value” for each of said areas (see col. 8, lines 44-64; col. 11, lines 4-11; col. 13, lines 9-19; Figs. 3, 22b, 22f, and 22h), where a threshold is calculated for each cell area; and

determining a representation of the geographical distribution of the traffic from said traffic values (see col. 3, lines 47-64; col. 8, line 44 - col. 9, line 17; Figs. 5, 8, 11, 13, and 17), where the cell is split according to traffic threshold.

Regarding **Claim 2**, Vasudevan discloses a method according to claim 1, wherein the traffic value of an area depends on a handover probability associated with that area (see col. 8, lines 44-64; col. 11, lines 4-11; col. 13, lines 10-19; Fig. 22b).

Regarding **Claim 3**, Vasudevan discloses a method according to claim 2, wherein said handover probabilities are computed conjointly with said traffic values by a constraint optimization method (see col. 1, lines 41-49; col. 5, line 39 - col. 8 line 43; col. 13, lines 10-19; Figs. 18 and 22b), where the network optimization is performed within the constraints of the algorithms.

Regarding **Claim 4**, Vasudevan discloses a method according to claim 1, wherein the step of dividing each cell is made up of the following substeps:

acquiring incoming handover boundaries from best server maps provided by a management system (see col. 3, lines 6-64; col. 4, lines 32 - col. 5, line 35; Figs. 16, 17, and 23a-c), where the system determines the handover boundaries which are adjusted according to traffic demands, and

computing outgoing handover boundaries from said incoming handover boundaries, said outgoing handover boundaries forming the boundaries of said areas (see col. 3, lines 6-64; col. 4, lines 32 - col. 5, line 35; Figs. 16, 17, and 23a-c), where determining of the outgoing boundaries are generated from the incoming boundary would be inherent for handover.

Regarding **Claim 5**, Vasudevan discloses of wherein the following equation is satisfied $\sum_{k \in J(i)} \lambda_k = t$ such that $J(i)$ is the set of indices of the areas belonging to cell i and t_i is the traffic value for cell i (see col. 5, lines 1-12; col. 8, lines 13-19; col. 9, line 33 - col. 10, line 14; col. 13, lines 9-19; Fig. 22b-h), where the cell/sectors have a power limit and traffic

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threshold that the densification program use for in the algorithm and Erlang and Poisson formulas to optimize the network in which the equation would be inherent.

Response to Arguments

5. Applicant's arguments filed 16 April 2004 have been fully considered but they are not persuasive.

Regarding applicants argument on page 6, 3rd paragraph, lines 5-6, "Vasudevan is deficient with respect to the division of cells within the network into areas to obtain a traffic representation", the Examiner respectfully disagrees with the applicant. Vasudevan clearly discloses of cells of a wireless network that are divided into sectors with coverage area bins (see col. 4, line 54 - col. 5, line 12; col. 8, lines 45-63; col. 10, lines 6-9; Figs. 4-5, 7, 8a-b, 14-15, 24-31), where the cells are split into sectors with bins for determining traffic density for handover and optimizing of the network.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (703) 305-8636. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WJD,JR/wjd,jr
28 June 2004


CHARLES APPIAH
PRIMARY EXAMINER